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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
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DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/665,036

Applicant(s)
Ilic et al.

Examiner
Patricia Patten

Art Unit
1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) 1-4 and 11-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Claims 1-18 are pending in the application.

Election/Restriction

Applicant's election of Group II, Claims 5-10 in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 1-4 and 11-18 have subsequently been withdrawn from further consideration on the merits as being drawn to a non-elected invention.

Claims 5-10 were presented for examination on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-7 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitagawa (US 4,594,412) or Rajogopalan et al. (US 5,130,133). Claims 5-10 are drawn to a method for producing an antiviral agent from the cuticular or epicuticular layers of a plant or plant part via exposing the plant or plant part to a suitable solvent in order to solubilize said plant or plant parts while leaving the cells and tissues internal to the epidermis substantially unaffected. Claims are further drawn to where the solvent is optionally removed, wherein the solvent is a particular non-polar solvent such as hexane or chloroform for example, wherein the method comprises either dipping or spraying the plant or plant part with the solvent, and specific methods for removal of the solvent.

It was known in the art that the outer membranes of plants and plant parts were mainly composed of higher chain alkyls such as lipids and waxes, and that these materials were removed easily via exposure to non-polar solvents such as hexane and ether. Rajagopalan et al. (US 5,130,133) for example, disclosed that plant tissues such as leaves which contained mucosal-protective agents, were advantageously deffatted with non-polar solvents such as hexane and chloroform prior to extraction (col.4, lines 48-63). Thus, the outer lipid (fatty/waxy) layer of the leaves was removed prior to further processing steps.

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Kitagawa (US 4,594,412) also disclosed a method for isolating soya saponins from soy seeds comprising defatting of the seeds via treatment with an organic solvent such as hexane or benzene leaving the seed intact (col.2, lines 42-51).

Where claim 7 states 'dipping,' the Examiner gives the term 'dipping' the broadest reasonable interpretation, and deems that 'dipping' would be analogous to 'exposing' or 'soaking.' Because the reference teaches that the seeds come into contact with the solvent, it is deemed that the seeds were either 'dipped' or 'exposed' or 'soaked' for a sufficient amount of time in order to dissolve the outer fatty layer of the seed.

Further, the term 'plant parts' is given it's broadest, most reasonable interpretation, and it is deemed that seeds are encompassed within the term 'plant parts' because seeds are an inherent part of the plant.

Because the method for removing was optional, claim 9 is anticipated by the reference even though the reference is silent as to removal of the solvent from the outer seed layer.

Although Rajagopalan et al. and Kitagawa et al. were silent with regard to where the compositions possessed anti-viral activity, because the method steps are the same, the products must also be the same; i.e., the compositions must inherently possess anti-viral activity.

In view of **In re Sussman, 141 F. 2d 267, 60 U.S.P.Q. 538 (CCPA 1944)**, the claims are rejected under 35 U.S.C. 102 (b) "that since the steps are the same, the results must inherently be the same unless they are due to conditions not recited in the claims." In the particular case, Applicant(s)

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is (are) claiming an invention employing the same process steps but the product(s) is(are) alleged to be different. Applicant is required to recite the missing steps or limit the claims in order to form the alleged different product(s) in view of the above-cited decision.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajagopalan et al. (US 5,130,133) or alternatively over Kitagawa (US 4,594,412). Claim 8 is drawn to wherein the step of exposing comprises spraying the plant or plant part with the solvent.

The teachings of Kitagawa (US 4,594,412) were discussed *supra*.

Neither Rajagopalan et al. nor Kitagawa specifically taught where the seeds were sprayed with the solvent.

Although Kitagawa did not specifically teach where the seeds were sprayed with the solvent, they did teach that the fatty material found on the outside of the seed could be effectively dissolved

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via use of non-polar solvents such as hexane or ethyl acetate (among others). Spraying of the solvent onto the seeds would have merely been a functionally equivalent means of introducing the solvent onto the surface of the seed in order to dissolve lipids and waxes coated thereon. It would not have required a substantial inventive contribution from one of ordinary skill in the art to have reasonably concluded that the method by which the solvent was added to the seed was not crucial, and could have varied, so long as the seed was contacted with the solvent for a sufficient time in order to dissolve the outer lipid/wax layer.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

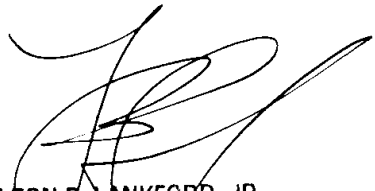
No Claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Patricia Patten, whose telephone number is (703)308-1189. The examiner can normally be reached on M-F from 9am to 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn, can be reached on (703) 308-4743. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



LEON B. LANKFORD, JR.
PRIMARY EXAMINER